ORIGINAL

**BEFORE THE**

# Federal Communications Commission

**WASHINGTON, D.C. 20554**



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| In the Matter of | ) | |
| | ) | |
| Amendment of Section 2.106 of | ) | RM - _____ |
| The Commission's Rules to Allocate | ) | |
| The 1970 to 2010 MHz (Uplink) and | ) | |
| The 2160 to 2200 MHz (Downlink) | ) | |
| Frequency Bands for Use by the | ) | |
| Mobile-Satellite Service, | ) | |
| Including Non-Geostationary | ) | |
| Satellites. | ) | |

To: The Commission

## PETITION FOR RULE MAKING

TRW Inc. ("TRW"), by its attorneys and pursuant to Section 1.401 of the Commission's Rules, hereby petitions the Commission to amend Section 2.106 of its rules, 47 C.F.R. § 2.106, to allocate spectrum at 1970-2010 MHz (Earth-to-space) and 2160-2200 MHz (space-to-Earth) for use by the Mobile-Satellite Service ("MSS"). As allocated, the bands would be available for the provision of domestic and/or international MSS by satellites in geostationary and/or non-geostationary orbits.

The frequency band pair covered by this Petition is currently used domestically for various purposes, including private fixed microwave, broadcast and cable television auxiliary

service, domestic public fixed radio, the multipoint distribution service, and the public mobile service. See 47 C.F.R. § 2.106 (1992). In its recent decision in Amendment of the Commission's Rules to Establish New Personal Communications Services, FCC 93-451 (released October 22, 1993) ("PCS Order"), the Commission allocated, inter alia, the 1970-1990 MHz and 2160-2200 MHz bands to domestic Personal Communications Services ("PCS") and assigned the 2180-2200 MHz block to terrestrial PCS. See PCS Order, FCC 93-451, slip op. at 26, Appendix A. The 1970-1990 MHz and 2160-2180 MHz segments were not assigned to terrestrial PCS, in order to preserve the Commission's options for future PCS satellite (i.e., MSS) use. Id. at 30, 84.[1/]

In addition to the current and recently adopted terrestrial uses of the subject bands, however, and as a result of initiatives that were strongly supported by the United States at the 1992 World Administrative Radio Conference ("WARC-92"), the 1970-1980 MHz and 2160-2170 MHz bands are now also allocated to MSS on a co-primary basis in ITU Region 2 (which encompasses the United States), and the 1980-2010 MHz and 2170-2200 MHz bands

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1/ The allocations made in the PCS Order will become effective on January 7, 1994. See PCS Order, FCC 93-451, slip. op. at 85. TRW has, on this date, petitioned for partial reconsideration of the PCS Order, in order to have the Commission revisit its assignment of the 2180-2200 MHz band to terrestrial PCS use.

are allocated to MSS on a co-primary basis worldwide. At present, these bands represent the only frequencies suitable for global MSS voice-grade service via hand-held transceivers that are both allocated internationally for MSS and not applied for in the United States.

TRW, a pioneer and leader in space technology for more than thirty years, is currently an applicant for authority to provide MSS and radiodetermination satellite service ("RDSS") in the 1610-1626.5 MHz (uplink) and 2483.5-2500 MHz (downlink) bands via its proposed "Odyssey" satellite telecommunications system.[2/] Odyssey is a system capable of providing communications links between fixed users and mobile users accessing the system via inexpensive, low-power hand-held transceivers, as well as between pairs of mobile users. Initially, the system will provide service almost everywhere in North America; however, the twelve satellite constellation (with associated terrestrial gateways) that characterizes Odyssey is inherently capable of providing virtually global coverage.

In addition to TRW, five other applicants have proposed use of the 1610-1626.5 MHz and 2483.5-2500 MHz bands to offer

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2/ Odyssey is a trademark of TRW Inc. Odyssey is a satellite telecommunications system which is to be comprised of a constellation of twelve satellites in medium Earth orbit.

MSS, via either non-geostationary or geostationary satellites and through utilization of several different modulation techniques. From January to April 1993, these applicants and others attempted without success to reach a negotiated solution for spectrum sharing among these disparate proposals. In its report to the Commission, the MSS Above 1 GHz Negotiated Rulemaking Committee stated that it "was not able to reach full agreement on recommendations or modifications to the Commission's rules which would maximize multiple entry and avoid or resolve mutual exclusivity among the applicants." Report of the MSS Above 1 GHz Negotiated Rulemaking Committee, CC Docket No. 92-166, at 5 (April 6, 1993). The Committee also recognized that sharing constraints were presented by the need for MSS systems to take cognizance of such other users of the 1610-1626.5 and/or 2483.5-2500 MHz bands as the radioastronomy community (at 1610-1613.8 MHz) and aeronautical radionavigation systems. Id. at 6-28. In other words, the Committee determined that there was insufficient spectrum at 1610-1626.5 MHz and 2483.5-2500 MHz to accommodate all of the current MSS system applicants.

There is no doubt that there is a vast, untapped market for the types of services that can be provided by global MSS systems, and that the successful establishment of the global non-

geostationary MSS systems proposed by TRW and others will help ensure the preeminence of the United States satellite industry well into the next century. There also is no doubt that there simply is an inadequate amount of spectrum currently allocated in the United States within which to provide these services (even for purposes of accommodating the current group of applicants, let alone the likely future entrants).

In view of the long lead time and substantial financial investment that global MSS systems entail, and the myriad national and public interest benefits they portend, it is imperative that the Commission and other U.S. policymaking bodies proceed expeditiously both to implement the allocations already made for MSS use and to seek the international allocation of suitable additional spectrum for use by non-geostationary MSS systems. Indeed, a substantial majority of the commenters responding to the Commission's solicitation of input in preparation for this November's World Radiocommunication Conference ("WRC-93") strongly urged the Commission to pursue an early date for MSS implementation in the two gigahertz bands in order to help meet the high demand. See Preparation for International Telecommunication Union World Radiocommunication Conferences, ET Docket No. 93-198. At WRC-93, the United States

delegation was the primary proponent of the facilitation of the use of additional frequency bands for MSS, and is largely responsible for the successful inclusion on the agenda for WRC-95 of MSS-related items. See Final Acts of the 1993 World Radiocommunication Conference, Resolution No. [COM4/1] (1993).

Given the manifest need for additional spectrum usable for MSS, and the importance of strongly promoting the U.S. interest in securing such spectrum at WRC-95, it is incumbent upon the Commission to move swiftly to make the allocations a reality for purposes of domestic licensing. This step will evidence this country's seriousness in advancing this service worldwide, and should facilitate the involvement of interested U.S. companies in formulating spectrum sharing, coordination and other technical proposals at the earliest possible date.

By contrast, if the Commission does not revisit its determination in the PCS Order to allocate spectrum that was only recently made available for MSS use to the terrestrial PCS service, the achievements of the U.S. Government at WARC-92 and WRC-93 will be wasted, and the credibility of the U.S. Government's future efforts at WRC-95 to facilitate the introduction of MSS will be severely undermined. TRW has called

for such a revisitation in the Petition for Partial Reconsideration of the PCS Order that it is filing today.

The provision of mobile-satellite services via hand-held transceivers is the next vast market for satellite services. International regulatory constraints and other practical limitations (including the need to protect users from any harmful effects of radiofrequency radiation and the desirability of minimizing propagation delays) combine to render the 1970-2010 MHz and 2160-2200 MHz bands the most appropriate frequencies available for use by non-geostationary MSS systems, such as Odyssey. The Commission should take every step possible to preserve and reinforce its commitment to MSS, including, of course, making the proposals necessary to implement domestically the international MSS allocations in the bands at issue here.[3/] TRW intends to apply for authority to construct, launch, and operate an MSS satellite system in the new MSS bands.

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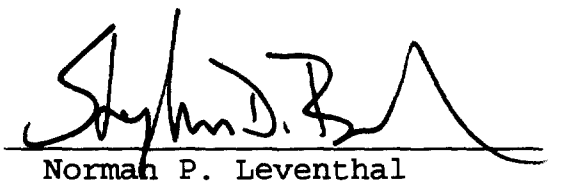
3/ TRW recognizes that the MSS allocations have delayed effective dates. Actions at WRC-95 may accelerate these dates. For domestic allocation purposes, TRW proposes that the allocations it seeks here be effective immediately.

## Conclusion

For the foregoing reasons, TRW respectfully requests that the Commission expeditiously initiate a rulemaking proceeding with the object of implementing the primary MSS allocations at 1970-2010 MHz and 2160-2200 MHz that were initially authorized at WARC-92, and for which the United States will seek accelerated implementation dates at WRC-95.

Respectfully submitted,

TRW Inc.

By: 

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